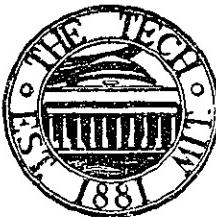


The Tech



OFFICIAL NEWSPAPER OF THE UNDERGRADUATES OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

VOL. LXXVI. NO. 1

CAMBRIDGE, MASSACHUSETTS, FRIDAY, FEBRUARY 10, 1956

5 CENTS

Revised Open House Hours Voted By Dormitory Council After Resident Opinion Poll

The principal topic of discussion, when Dormitory Council met last Monday night, was open house rules. The council discussed at length the results of a questionnaire which had recently been distributed among residents, asking their opinions about the old open house hours. The questionnaire showed that 233 residents favored lengthening the 1:00 p.m. Saturday night deadline to 2:00 p.m. 372 students indicated that they preferred keeping the old closing hour. During the discussion of the problem, it first appeared that a compromise of 1:30 a.m. would be reached, but the committee finally voted 6-5 to keep the old hour.

Other conclusions made from the discussion of the questionnaire were voted on by the committee producing the following open house hours, effective immediately:

Monday through Thursday, 8:00 p.m. to 10:00 p.m.

Fridays, Saturdays, vacations and holidays (excepting the last days), 12:00 noon to 1:00 a.m.

Last days of holidays and vacations, 12:00 noon to 12:00 midnight.

It was emphasized at the meeting that responsibility rests upon all dormitory students to see that the new rules are observed.

In considering other business, Dormitory Council agreed to revise the Dorm Handbook when it learned that the revisions will cost only \$50 above regular printing costs. The handbook will be distributed only to incoming students, rather than to all students as has been the practice.

When it meets on February 20, the council will discuss the problem of the rights and responsibilities of the students to the physical property of the dormitories.

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Inscomm For "GAW" Seeks Cut Of Tuition

The question of undergraduate finances completely dominated Inscomm's meeting Wednesday. The first of a two-part Financial Procedure Recommendations Report was submitted to the Committee by Richard L. Peskin '56, Vice-President of the Undergraduate Association and William Hanson '56, Chairman of the Finance Committee. In it a "five-fold plan" for a general overhauling of the present undergraduate finance system is proposed.

Specifically it suggests:

I. That day-to-day expenses of undergraduate activities be covered by a fixed percentage of the yearly student tuition, "growth factor".

II. That money provided for "co-curricular" activities should come more and more under the administration of the activity involved.

III. That endowments be solicited for activity projects (by the activity concerned) which otherwise would be financially impossible.

IV. That activities underwritten solely by educational funds naturally will not concern student government.

V. That long-range plans are needed for the installation of new equipment, new buildings, etc., for activity use.

With some misgivings on certain points, the Committee strongly supported the basic tenet of the report, i.e. more independent undergraduate financing.

38 Special Summer Session Topics Expected To Draw Over 2,000

Thirty-eight special programs in a wide range of subjects at the frontiers of current scientific development will bring more than 2000 scientists, engineers, architects, and executives to the Massachusetts Institute of Technology during the 1956 Summer Session.

Dr. Ernest H. Huntress, director of the MIT Summer Session, in announcing the series of short, intensive programs, pointed out that it represents the largest undertaking of this kind in the history of the Institute and is a substantial extension of MIT's interest in adult education.

Most of the 1956 summer programs will extend for two weeks. Most of them meet only on weekdays, leaving weekends free for touring and sightseeing.

Among the programs scheduled for this summer are:

"Tropical Hurricanes"—a two-week program providing a general review of current knowledge of tropical hurricanes—forecasting procedures, radar detection, long-term trends of hurricane occurrence, the birth and structure of hurricanes, and statistics on the characteristics and distribution.

"Orbital and Satellite Vehicles"—as space ships pass from fiction to reality, these matters have new importance: conditions in the upper atmosphere and in space, how to figure trajectories and orbits, rocket engine design, how to construct space vehicles, and the physiological problems of man in space.

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He is a well known as a composer and pianist.

Research Reactor Planned For Tech If AEC Approves

The planned MIT nuclear research reactor will be used for research in the treatment of cancer, according to Dr. Thomas H. Pigford, Associate Professor of Nuclear Engineering.

(Construction of the reactor itself—now awaiting approval by the Atomic Energy Commission and other authorities—will be in the hands of ACF Industries of New York. This company has also recently been selected to design the reactor.)

Dr. Pigford has described one possible plan whereby a beam of neutrons, given off by the reactor, would be transmitted to a nearby room which medical researchers could use in their study of neutron therapy.

A method of treatment employing these neutrons was developed by Dr. W. H. Sweet and Dr. Gordon Brownell of Massachusetts General Hospital, Dr. Pigford said. The salts of boron are injected into a patient with a brain tumor. The boron moves through the body into the cancerous tissue. When the patient is positioned under the neutron beam, a nuclear reaction occurs between the boron and neutrons, resulting in the emission of alpha particles, which damage or destroy cancerous tissue.

MIT announced in 1954 that it would build a reactor as a part of a \$7,000,000 program for new labora-

(Continued on page 3)

Course I Exhibit In Building 7 Next Week

The Department of Civil and Sanitary Engineering will present an exhibit titled "Science in Civil Engineering" in the Main Lobby of Building 7 during the week of Feb. 13. The purpose of this exhibit is to tell incoming freshmen, many of whom are faced with the problem of choosing a field of engineering, just what Civil Engineers do and what Civil Engineering is. There will be contributions from various divisions of the Department, such as Transportation, Hydraulics, Structures, Building Engineering, Sanitary Engineering, and others.

The exhibit will include a model of a Solar heated house, including a working model of a heat trap. Also on display will be models illustrating Bridge Vibration problems, Hydraulics problems, and Soil Stabilization and Foundation Engineering.

Levy Teaches Criticism As Aesthetic Application

This semester Professor Ernst Levy will give a new course, Mu 46: Principles of Music Criticism. The Office of the Director of Music describes the course as "a study of music criticism as an application of aesthetics." The course is scheduled as a 3-5 fourth year elective with Mu 32 as a prerequisite. Hours will be arranged.

Professor Levy, "contrary to earlier expectations", will also teach Mu 44: The Classic String Quartet.

Faculty Resident in East Campus this year, Professor Levy came to the Institute three terms ago as Carnegie Visiting Lecturer in Music.

He is a well known as a composer and pianist.

Sheetz Named Executive Development Secretary; Alexander New Industrial Management Professor;

Kaufmann, Kahn, Shannon To Hold Visiting Posts

Dr. Sidney S. Alexander, economic advisor to the Columbia Broadcasting System, Inc., will join the Faculty of the School of Industrial Management on July 1, 1956.

Widely known for research on economic and industrial problems, Dr. Alexander will come to MIT as Professor of Industrial Management. His appointment was announced by Dean E. P. Brooks of the MIT School of Industrial Management, who stated that, "Dr. Alexander's imaginative and versatile mind, which is reflected by his extensive experience in research, especially fits him for this assignment in the School of Industrial Management."

Dr. Alexander is expected to develop courses in business economics and in such related fields as business policy and problems in business management. "In addition," Dean Brooks continued, "he will help formulate large-scale research in industrial management with emphasis on the interrelationship with the social sciences."

A native of Forest City, Pennsylvania, Dr. Alexander studied for one year at King's College, Cambridge, England, after graduating from Harvard in 1936. He later returned to Harvard for graduate study and to serve as instructor in Harvard College.

Since then, he has been associated

Alfred Sloane Secret Donor; Matched '55 Alumni Giving; Gave Half Million Last Year

The mysterious "Mr. X" who a year ago offered to match contributions of Massachusetts Institute of Technology alumni to the Alumni Fund dollar for dollar was identified last week as Alfred P. Sloan, Jr., Chairman of the Board of General Motors, an alumnus of MIT, and a life member of its Corporation.

Mr. Sloan, a graduate in the Class of 1895 and one of MIT's greatest benefactors, has contributed \$515,000, to match an equal amount given by the Institute's alumni through the 1955 Alumni Fund. With other sums voted by the Fund Board, contributions for 1955 reached a total of \$1,215,000.

The announcement was made February 2, at the Mid-Winter Meeting of 700 MIT alumni at Walker Memorial. The entire amount of the 1955 Fund becomes a memorial to the late Karl T. Compton to cover part of the cost of construction of the Karl Taylor Compton Laboratories for Nuclear Science and Engineering and

Electronics.

Not since the days of George Eastman, the "Mysterious Mr. Smith", has there been so much curiosity over the identity of a benefactor. In revealing his identity, Dwight C. Arnold, president of the Alumni Association, who presided at the meeting, read a statement from Mr. Sloan:

"The MIT Alumni should feel very proud of their contributions to the Karl Taylor Compton Laboratories. It has been a privilege for me to share with the other Alumni in making possible this permanent and most fitting memorial to a truly great man. The steady growth of our Alumni Fund demonstrates real confidence and faith in the future of the Institute under Dr. Killian's bold and imaginative leadership. The expanding opportunities in science, engineering and management, which MIT is exploiting with vigor, foretell great advances which will augment our economic strength, help conquer disease, and improve our general welfare."

Djinn And Bitters '56 Tech Show

Tech Show, the annual musical comedy, will be presented in Kresge Auditorium on March 1, 2, and 3. This show, "Djinn, and Bitters", stars Jack Rosenthal '56, Dub Alston '56, Gus Solomon '59, and Carole Behrens, Emerson College. Among the supporting performers is Joan Icove, Simmons College, who starred in "Tydes Crossing".

The plot involves the plight of a 20th century "prince" who is confronted by a multitude of femmes fatales. Helping him out of the fry-

ing pan and into the fire are Sheherazade, a djinn, a conscience, and an Arabian story teller. This off-beat story represents the MIT scriptwriters' attempt to create a need of unlimited fantasy.

Blocks of six or more tickets will be available starting Monday, February 13. First preference for tickets will go to those reserving blocks according to first come first serve. See notices on the bulletin boards or calling Frank Salz for reservations. Individual sales will begin Feb. 20.

Sheetz Named Executive Development Secretary; Alexander New Industrial Management Professor;

Kaufmann, Kahn, Shannon To Hold Visiting Posts



DR. SIDNEY S. ALEXANDER

with the National Bureau of Economic Research in New York, the U. S. Office of Strategic Services, Columbia University, the U. S. Treasury Department, the U. S. Department of State, the RAND Corporation, and the President's Materials Policy Commission. From 1946 to 1949 Dr. Alexander served as assistant professor of economics at Harvard.

Dr. Claude E. Shannon, research mathematician at the Bell Telephone Laboratories, Murray Hill, New Jersey,

sey, and one of the nation's leading contributors to modern communication theory, has been appointed visiting professor of electrical communications at the Massachusetts Institute of Technology.

Dean C. Richard Soderberg of the MIT School of Engineering, who announced Dr. Shannon's appointment last night, said that while at MIT during the spring term, Dr. Shannon will continue as an active member of the Bell Laboratories staff.

"While he is a member of the Department of Electrical Engineering at MIT, Dr. Shannon will teach an advanced subject on information theory based on his recent Bell Laboratories research which has opened up new, important avenues in this field," Dean Soderberg said.

A native of Gaylord, Michigan, Dr. Shannon received his bachelor's degree in electrical engineering and mathematics from the University of Michigan. After four years of graduate study at MIT, he was awarded a master's degree in electrical engineering and the Ph.D. degree in mathematics in 1940.

As a National Research Fellow Dr. Shannon studied at the Institute for Advanced Study, Princeton, New Jersey, in 1940, and in 1941 he joined the staff of the Bell Telephone Laboratories.

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EDITORIALS

For The Record

Not long ago, Institute Committee asked Activities Council "to obtain a statement regarding the responsibilities to the MIT community of the undergraduate publications as manifested through editorial policy". Here is our statement...

We cannot acknowledge any specific responsibility to any specific group. Such responsibility could result in nothing but the eventual silencing of our editorial voice as a constructive force. We do, however, recognize a definite, if intangible, responsibility to the Institute community. This responsibility is our only reason for existence.

To function effectively and meaningfully, we cannot print unrestrained and ill-considered abuse or praise; we must criticize sensibly. We have no reason to praise what everyone knows is good; we must praise when such praise can bring about the effecting of good. Similarly, we must attack when it will clear the way for some move which would benefit the Institute community.

All these are matters of our personal judgment, what we feel is right. We can do no more.

Open House Hours

Granted the authority for the first time, Dormcon has compiled a revised set of Open House Hours. Despite years of student grumbling, not many changes have been made.

Information for the decision presumably came from the much publicized questionnaire of several months ago. The questionnaire revealed that of the eight hundred odd replies (out of some sixteen hundred dorm residents) most were reasonably satisfied with the hours as they had been. Asked whether the existence of open house hours had bothered them, they replied, almost unanimously, no.

The question of laws, for open house hours are laws, is a far different one from that of elections; and any referendum or questionnaire on the subject must be viewed in an entirely different light. The solution is not to enact those laws which would be liberal enough for the majority; but rather to enact those which would be unsatisfactory to the fewest people and would do the greatest good for the greatest number. That majority which was satisfied by what were largely the old rules indicated only that open house hours had never bothered them in the past. The questionnaire did not attempt to discover whether or not extension of the hours would inconvenience them in any way. Apparently, Dormcon recognized this inadequacy in the questionnaire and decided to rely on their own judgment instead.

The problem of changing the hours is complex, or so Dormcon debate would infer. Their reasons for not adopting more liberal hours during the week were three: that the majority did not request them, that extended hours might inconvenience those people who did not use the open house privilege, and that such hours would be morally or socially unacceptable. Moral and social acceptability were almost the sole arguments against extending the weekend one o'clock curfews.

True, the majority did not request advanced week day hours; but as pointed out earlier, this is not a relevant consideration in the drafting of such rules. The problem of inconvenience is a debatable one. Many members of the council felt it important; but this problem is one requiring local action rather than dormitory-wide action. The dormitory system is composed of many units, which for this purpose are autonomous and should be so treated. What might inconvenience residents of one of the floors of Burton's 420

section or Conner Hall might not disturb residents of one of the separate parts of Senior House, and so on.

It would be unfair and illogical to deprive one of these groups of any privilege because other groups did not want them for themselves. If inconvenience is a pivotal consideration, then Dormcon should give up some of its newly gained power, delegating responsibility to the various floors and houses to solve what are solely their individual problems.

The biggest barrier to further extension of Open House Hours was Dormcon's extreme consciousness of moral and social acceptability. However, what some may consider violations of morality will not be eliminated by a lessening of Open House Hours or significantly promoted by an extension.

What was this "social acceptability" which Dormcon felt was more important than extended hours? To whom should Open House Hours be "socially acceptable"? Are there any students who would find more liberal hours "socially unacceptable"? Probably not.

Questioned on this subject, one of the six council members who voted against extension of weekend hours to two o'clock (five voted for the measure) cited the administration, parents and people around Boston as largely the "they" in consideration.

The administration gave the students, through Dormcon, the right to make their own hours. For this reason, it would seem then that Dorcon should consider solely the interests of the students rather than looking back over their shoulders at the administration. As for others, it is doubtful that they would be greatly concerned with these changes.

But if Dormcon is still worried about "social acceptability", let them at least make consistent judgments. Let's have hours of twelve to one every day rather than the ridiculous and confusing twelve to one one day, twelve to twelve the next, and three to ten on others.

Dormcon, although confused as to which hours are "socially acceptable" to a vague "they", has recognized officially a situation which has long existed—that open house hours are a responsibility of each individual student. They cannot be enforced in any other way. The majority of dorm residents have accepted the hours in the past and will continue to do so. There is, however, a concerned and dissatisfied minority who are strongly affected by the rules.

Can Dormcon, in all fairness, subject them to rules made without due consideration of their situation and then ask them to take responsibility for their enforcement? It has the legal right, but it will never be able to gain general cooperation or respect for these or any other rules if it does not consider the case of the vitally affected minority.

reviews

"The Asphalt Jungle"

Although we didn't swallow our chewing gum or spill our pop-corn, as the advertisement predicted we would while watching "The Asphalt Jungle," we found the film to be somewhat more thrilling than the run-of-the-mill whodunit. However, its attempt to give a realistic interpretation of urban crime and a humane picture of the criminals themselves was often overshadowed by the pyrotechnics of safe-cracking and the screams of sirens. As a result, the excitement was genuine, but the character portrayal left us cold.

The acting was, on the whole, dead-pan—almost too dead for real live people. Sterling Hayden portrayed the part of Dix Hanley, a country yokel who came to the big city to seek his fortune and subsequently buy back his mortgaged farm. Only he sought his fortune by robbery and playing the horses. His manner was cool to the point of chill. After receiving a gun-wound that later proved fatal, his only comment was "That bullet just ripped through my side and went on about its business." Then there was Alonzo Emmerich, a criminal lawyer of disputable ethics whose guiding principle seemed to be "Crime is only a left-handed form of human endeavor." Louis Calhern played the part with a little too much finesse for an interesting personality. Marilyn Monroe appeared briefly as Emmerich's mistress. She plays the part of an extremely naive and stupid girlfriend with a great deal of authenticity. The brains behind the whole business is an ex-convict known as "Doc" Reichen Schneider, a little German with a nose as long as his name and a hankering for women, cigars and money. A bookie who goes into frequent fits of nervousness, a white-haired but fiery police commissioner, and various and sundry hoodlums round out the cast.

The plot is essentially the saga of a jewel robbery. It is set against a background of dimmed city lights and the shady habitats of men of crime. Attempts to show the criminals in the light of human understanding are worked in as deviations from the plot. This greatly detracts from the continuity of the story. The characterization also lacks a depth and suffers from mediocre acting. However, the story is exciting, and those scenes showing the actual robbery had us glued to the seat.

The program is currently playing at the Brattle and will run through Saturday.

—Fred Epstein '57

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The makers of Philip Morris, who sponsor this column, have got some news for you too. It's today's new gentle Philip Morris in today's bright new package of red, white, and gold.

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BRATTLE THEATRE
Harvard Square

Now: THE ASPHALT JUNGLE
with Sterling Hayden & Louis Calhern
Sunday: THE RED INN

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Real John*
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On Campus with Max Shulman
(Author of "Barefoot Boy With Cheek," etc.)

OH, FOR THE LIFE OF A NEWSPAPERMAN!

Look at the campus newspaper you are now holding. An ordinary object, you think? An everyday convenience? Something to be taken for granted?

Faugh, sirs and madams! Faugh, I say! Don't you know what prodigies of skill and labor and organization and art and science go into the making of your campus newspaper?

Come, I'll show you. I'll take you to a typical office of a typical newspaper on a typical campus.

The editor—let's call him D. Fermin Bohorquez, a typical enough name—calls his staff together first thing in the morning. "All right, you guys," he says, lighting a Philip Morris, which, naturally, is the favorite cigarette of newspapermen, and of anybody else who knows a hawk from a handsaw, "All right, you guys," says D. Fermin, "this here ain't no ladies' whist society, this here is a newspaper. So get out there and get the news. Get it first, get it quick, get it right! Ed, you cover the ag campus. Phil, you cover the school of mines. Wally, you cover home ec. Sam, you cover buildings and grounds. Ethel, you cover the men's gym.... All right, get going!"



With many a laugh and cheer, the reporters light up Philip Morris, favorite cigarette of the young and agile, and dash away on their assignments.

D. Fermin retires to his office to smoke a Philip Morris and write a fearless editorial scolding the university for not buying patches for the worn-out elbows of the chess team.

On the rim of the copy desk three rewrite men—Tensing, Hillary, and Laverne—sit poised and expectant, waiting for the reporters to phone in their stories. They smoke Philip Morris, favorite cigarette of the poised and expectant. Tensing's phone rings first; it is Ed calling from the ag campus.

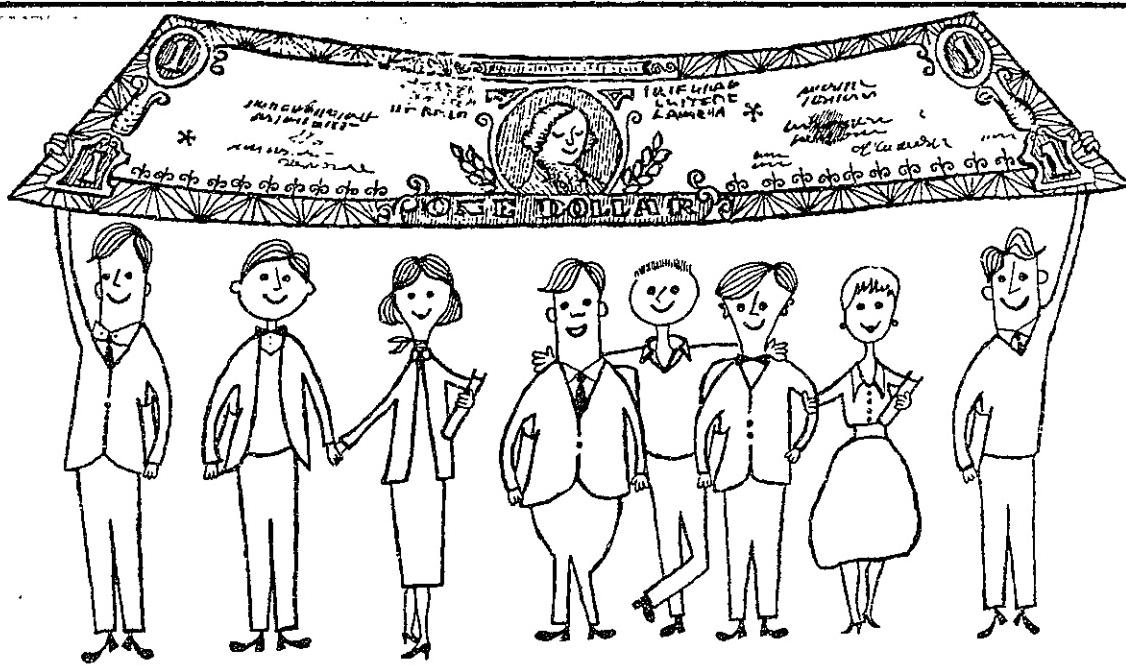
"Stop the presses!" cries Ed. "Got a scoop! Hunrath T. Sigafoos, professor of curds and whey, has just sold his article 'The Romance of Butterfat' to the Drovers and Poulterers Monthly."

On another phone Sam is calling from buildings and grounds. "Tear out the front page!" he cries. "Got an exclusive! Harold 'Pop' Wishnograd, superintendent of buildings and grounds, today announced the purchase of a new doormat for the vestibule of Burton Hall. The last doormat, it will be recalled, was eaten by a pledge named Norman Harringay for his Chi Psi initiation."

Meanwhile, elsewhere in the city room, Ganglia Questover, vivacious and ubiquitous gossip columnist, sits smoking a Philip Morris, favorite cigarette of the vivacious and ubiquitous, and typing out her chatty, informative tidbits: "Maureen Valgerholtz, popular Theta, announced her engagement last night to Webster Scuff, Oliver Jenkins, Cosmo Erskine, and Walter Penn Dowdy. Wedding dates have been set for June 9, June 24, July 5, and July 18 respectively. Good luck, Maureen! ... Irving 'Behemoth' Anselm, popular fullback, blew out 120 feet of esophagus yesterday while inflating a football. Good luck, Irving 'Behemoth'! ... Robin Kroveney, popular Deke last year, this year popular pfc. in the U. S. Army, writes friends that he has been convicted of deserting his post and will be executed on April 28. Good luck, Robin!"

And now, friends, we take our reluctant leave of the drama, the action, the tension, the glamor, the churning, the seething, the roiling, the *sturm und drang* of the wonderful world of journalism. Aloha, journalism, aloha!

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What young people are doing at General Electric

Young manager handles finances for \$40,000,000 business

General Electric is made up of more than 90 product departments that operate as individual "businesses" — each conducting its own legal, financial, manufacturing, engineering, marketing and research activities.

One of the most important of these businesses is the Technical Products Department that makes broadcasting and communications equipment and semi-conductor devices. Responsible for managing the finances of this \$40 million business is Robert H. Platt.

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In the next ten years, the Technical Products Department is expected to reach the \$100 million mark — more than doubling its present size. This is a big job. And it requires Platt to keep tabs on everything from tax, cost, and general accounting to payrolls, budgets and measurements, credits and collections, and internal auditing.

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ROBERT H. PLATT joined G.E. in 1941 after receiving his B.A. at Colgate University. He served 2 years in the Navy, attaining the rank of Lieutenant (J.G.). He is also a graduate of G.E.'s Business Training Course.

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notices

CHORAL SOCIETY

On Monday, February 20, 8:30 p.m. at Kresge the MIT Choral Society presents a program including Apparebit Repentina Dies and Ein Deutches Requiem. Forty-two members of the Boston Symphony will appear. Tickets are available by mail for \$2.50 and \$1.50 from Room 14-N236.

CATHOLIC CLUB NOTICE

On Feb. 17, 18 and 19, the Technology Catholic Club will hold its annual retreat at the Mirimar Retreat House in Duxbury, Mass. Father Joseph Ford will be the retreat master. Anyone interested should contact Rene Unson in room 525C, Graduate House.

Reactor Research

(Continued from page 1)
ories in memorial to the late Karl Taylor Compton. Last June President James R. Killian, Jr., disclosed that the reactor would be a "domesticated" type, devoted to non-secret research on peaceful use of the atom. It will have a power of 1,000 kilowatts, the same as that planned for a reactor being constructed on the University of Michigan campus, and it will operate at a temperature of only 104 degrees Fahrenheit—"cool" compared to reactors which produce atomic power.

The MIT reactor, which will be the first to be constructed in New England, will be used for training students in nuclear engineering and for research in such fields as medical therapy, solid-state physics, sterilization of food, biology, testing of industrial materials, and engineering of future reactors, in addition to its use in the cancer research program.

MIT BRIDGE CLUB

MIT Bridge Club will resume its regular tournament play at the Baker House Dining Room tomorrow at 1:30 p.m. All are invited. Coming up soon are the National Intercollegiates, open to all undergraduates and the Club's Invitational Individual Championship.

AIEE-IRE TALK

The Joint Student Branch of the AIEE-IRE will present a talk by Mr. Cyril N. Hoyler, manager of Technical Relations for RCA, on Tuesday, February 14, at 5:00 p.m. in Kresge Auditorium. The program will include interesting demonstrations of recent electronic achievements. Everyone is invited to attend.

Appointments

(Continued from page 1)

The appointment of John W. Sheetz, III as Executive Secretary for Development at MIT was announced today by Robert M. Kimball, secretary of the Institute.

Mr. Sheetz became assistant to the director of Lincoln Laboratory in 1952 and has been at MIT since 1953 as Assistant to the Director, Division of Business Administration, and Assistant Director of General Service. In his new position he will give his primary attention to annual contributions programs and will be responsible for administrative management of the Development Office, where he will be associated with Ralph T. Jope, director, and Walter H. Gale, special assistant.

Two distinguished contemporary designers have arrived at the School of Architecture and Planning at the Massachusetts Institute of Technology to teach during the 1956 spring term.

Louis I. Kahn, Professor of Architecture at the University of Pennsylvania, is Albert Farwell Bemis Visiting Professor of Architecture for five months beginning February 1.

Edgar Kaufmann, Jr., widely known for his work with the Museum of Modern Art, New York City, and with other exhibitions of contemporary design, will be Albert Farwell Bemis Lecturer during the current term.

Both appointments are made possible by funds granted to MIT in 1938 from the Albert Farwell Bemis Charity Trust, established in Mr. Bemis' memory following his death in 1936.

Mr. Kahn, who has a well-known architectural practice in Philadelphia, has designed the Mill Creek Housing Project and Redevelopment Plan, the A. F. of L. Medical Center, and the Philadelphia Psychiatric Hospital in Philadelphia. He was also architect for the recently completed Yale University Art Gallery.

At MIT Mr. Kahn expects to develop studies of urban design and planning which will show the essential unity between all uses of urban space. He believes that "all problems of civic life leading to building need to be considered as one."

While at MIT as Visiting Lecturer, Mr. Kaufmann will conduct a series of seminars on the relationship of architecture and design to the ultimate use of space. "Architects look at architecture but people live in it," Mr. Kaufmann has said. "Making space into rooms is a major design problem."

Mr. Kaufmann, who is a native of Pittsburgh, Pennsylvania, has been responsible for many exhibitions of interior furnishings. After studying painting in New York and Europe, he served an apprenticeship with the distinguished architect Frank Lloyd Wright. Mr. Kaufmann has been associated with the Museum of Modern Art since 1938, where he was director of its department of industrial design and since 1950 director of its good design exhibitions. He is author of books on modern furniture and interior design, and he is widely known as a contributor to professional and popular magazines on the subject.

Mr. Kaufmann has been asked to select religious furnishings for the new MIT Chapel.



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Dave McGinnis asks:

**Does Du Pont
Have
Summer Jobs
for College
Students?**



Ivar A. Lundgaard obtained two degrees, B.S. in Ch.E. and A.B. in economics, from the University of Rochester, and joined Du Pont's Photo Products plant at Parlin, N. J., in 1942. Later that year he became a shift supervisor and was promoted steadily thereafter. By 1951 he was Production Superintendent at Du Pont's Rochester plant. Today Ivar is Polyester Department Superintendent at Parlin, well able to speak about Du Pont employment policies out of his own experience and observation.

NOW AVAILABLE for free loan to student A.S.M.E. chapters and other college groups, a 16-mm. sound-color movie, "Mechanical Engineering at Du Pont." For further information about obtaining this film, write to E. I. du Pont de Nemours & Co. (Inc.), 2521 Nemours Building, Wilmington 98, Del.



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C. David McGinnis will receive his B.S. degree in mechanical engineering from the University of Texas in June 1957. Currently, he's senior manager of men's intramural sports and a member of the Delta Upsilon and Phi Eta Sigma fraternities at Texas.

Ivar Lundgaard answers:

Yes, Dave, the Du Pont Company regularly employs students of science and engineering in its *Summer Technical Training Program*. The chief purpose is to provide good technical training under industrial conditions. And we learn about the students while they learn about us.

Students selected for the program after campus interviews include candidates for the B.S., M.S., and Ph.D. degrees. Assignments are related to their academic interests. Last summer 270 students from 93 institutions participated in the program. In this way, ties are often established which can lead to permanent employment after graduation.

In addition, many other students are hired directly by individual Company units to help out during vacation periods of our regular employees. For this "vacation relief work," assignments are likely to be varied; but these students also gain valuable insights into industrial practice, and many acquire experience related to their fields of study.

Altogether, about 750 college students, from both technical and nontechnical fields and at all levels of training, obtained experience with us during the summer of 1955. So you can readily see, Dave, that the Du Pont Company attaches a lot of importance to summer jobs for college students.

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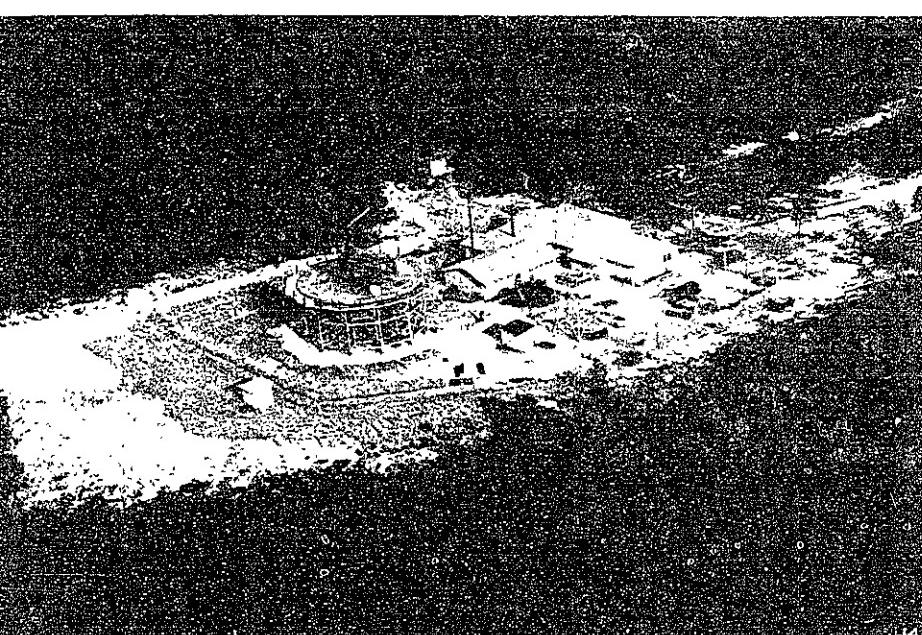
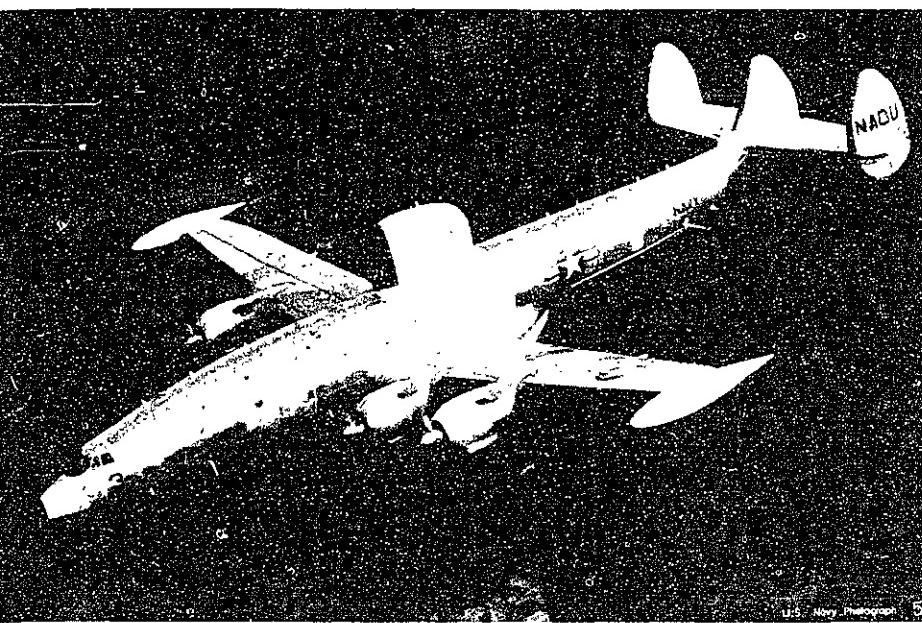
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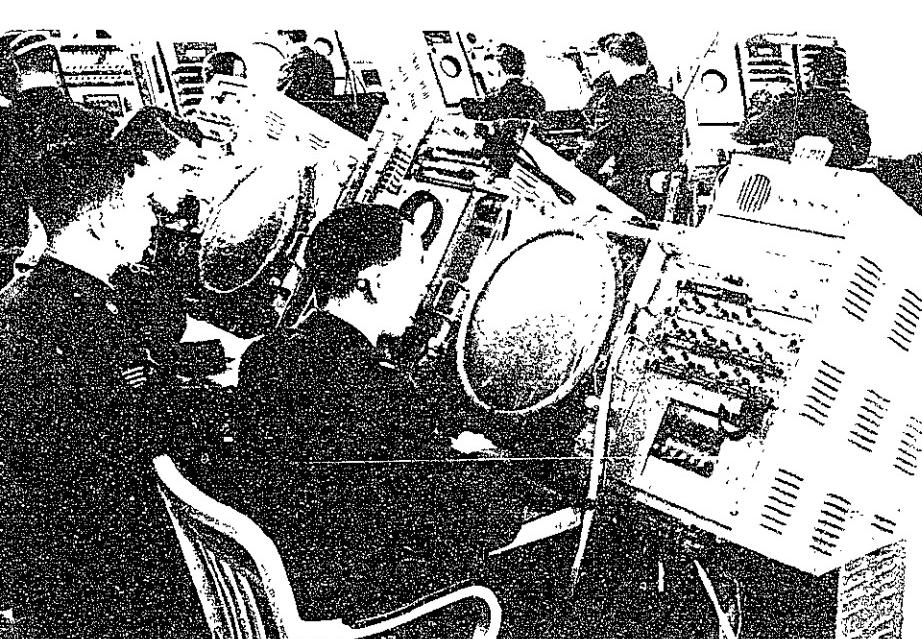
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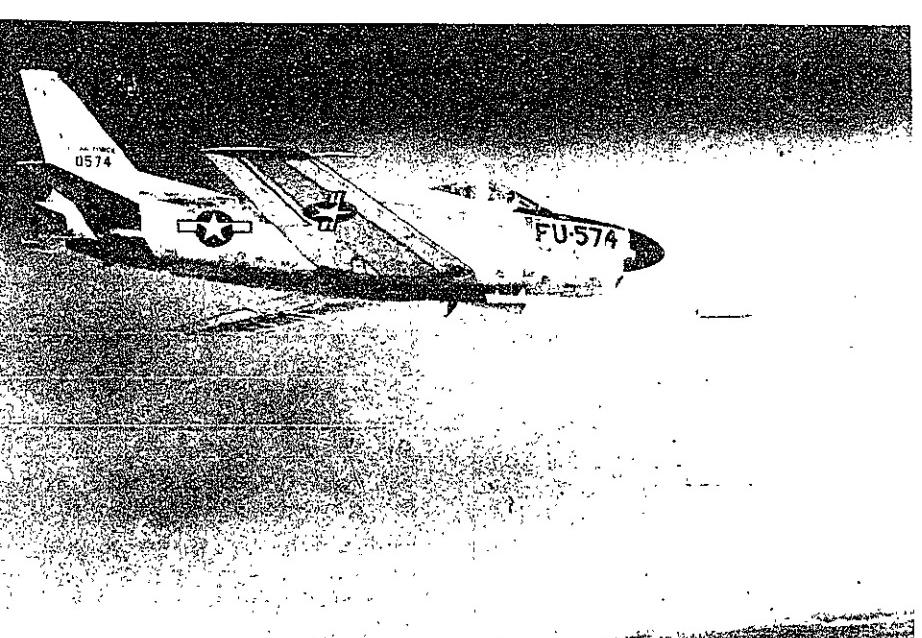
Camel



The Truro station and the Constellation with its mounted radar are but two of the many "eyes" which provide information to be acted upon by the giant computers.



Radar flashes on the screens of the consoles at the stations the presence of a possible attacker. Basically it is the job of the computer to determine whether it is a friendly plane or an enemy.



SAGE - Continental Defense System Developed At MIT's Lincoln Project

**The Institute And The Armed Services Team In A Huge Aerial Defense Project;
An Integration Of Early Warning And Interception Systems Developed,
Using Whirlwind I Type Computers As Information Processing Units**

The aerial defense of America involves a variety of high performing defensive weapons like interceptors, ground-to-air guided missiles, and anti-aircraft guns. The assignment and control of these weapons is one of the basic problems of air defense. Continued study and attention to this problem has produced a new system of air defense known as the Air Force SAGE System which provides an effective "counter-balance" to the growing destructive might arrayed against us.

The speed and accuracy with which men can handle the details of identification and interception set a natural limitation to the effectiveness of a manual defense system. How to overcome this limitation and strengthen our air defenses was one of the most perplexing problems ever faced by those responsible for America's security. To find answers to these problems the Massachusetts Institute of Technology was asked by the three Military Services to establish a new research center known as the Lincoln Laboratory. Here, advancing electronics technology would be applied to all phases of air defense.

The initial work of this new laboratory focused attention on the rapidly developing field of electronic computers, and in particular upon Whirlwind I, the Navy-financed all-purpose digital computer, one of the highest performing computers in existence at that time. This computer very quickly demonstrated its ability to process large quantities of all kinds of air defense data, and to do this with extreme rapidity. In the application of high speed computers to air defense problems came the prospect of hurdling what had long been a barrier to any appreciable growth in our air defense capability, the barrier of information processing. The computer opened the way for more centralized air defense data handling around which the Air Force SAGE System is built.

Before the introduction of computers, the basic building block of air defense was limited to the coverage of a single radar. The SAGE System enlarges this building block by bringing the areas of several radars under the control of a single operations center. These radars are linked by telephone lines or UHF radio directly to a high speed digital computer. The locations of aircraft anywhere within this entire area are relayed continuously and automatically from the radars. But the information from these ground-based radars is only one piece of data fed into the computer. Many other sources also supply information to the computer. These include Height Finding, Texas Towers, picket ships, AEW planes, Ground Observer Corps, flight plans and weather.

The computer digests all this information and translates it into a composite picture of the complete air situation. It generates scope displays to show this air situation as it develops and to provide the basis for the human judgments involved in tactical decisions. The computer automatically calculates for the operators the most effective application of such weapons as interceptors, anti-aircraft, Nike and other missiles. Through radio data link, all-weather interceptors and long-range missiles are guided to targets automatically by the computer. As the air battle moves out of the area served by one computer, all information pertaining to each aircraft is transferred automatically to the computer of the adjacent area.

To test this centralized data-processing system the Lincoln Laboratory and the Air Force built in eastern Massachusetts an experimental test network known as the Cape Cod System. A long range radar on Cape Cod was linked to Whirlwind I. Smaller radars for detecting low-flying aircraft were located at strategic positions and also linked to the computer. At Hanscom Air Base near the Lincoln Laboratory, a special test support wing was set up by the Air Force to operate aircraft used in evaluating the system. Additional facilities were provided by the Naval Air Development Unit at South Weymouth, Massachusetts, which supplies the Naval aircraft that participates in Lincoln's test program. A Direction Center was established next to Whirlwind I in MIT's Barta Building in Cambridge. Here the system was tested as an operational unit. The functions of detecting aircraft, identifying them, plotting and predicting their courses are all done electrically and automatically. Once weapons are committed the system directs them to their targets with a minimum of human intervention. The Cape Cod test network bridged the gap between conception and practice.

Not only was it necessary to evaluate the system as an operational unit, but the special equipment which the SAGE System required was also developed. Whirlwind I, for example, pointed the way to a new computer with greatly increased speed and capacity, and specifically designed for air defense application.

Meanwhile, at the various Cape Cod radar sites, additional important equipment was evolving. Radar designs were

modified and special items of equipment developed for the automatic transmission of radar data. These sites provided a proving ground for new developments. Airmen technicians worked with Lincoln engineers in conducting tests on new developments, keeping records of system performance, and installing new experimental equipment sent to the sites for field use and evaluation.

With the successful demonstration of the Cape Cod network, the Air Force was ready to begin a far-reaching revision of our air defenses. The Western Electric Company, under Air Force contract, was brought in to engineer and supervise the installation of the SAGE System. This is a task which covers the construction program, and all planning, scheduling and procurement activities involved in bringing the new continental Air Defense network into being.

The International Business Machines Corporation, also under Air Force contract, put into production the first computer specifically designed for Air Defense. These computers, which the Air Force calls the FSQ-7 data processing equipment, are among the largest and most reliable electronic computers yet built. The many thousands of individual elements going into these computers are manufactured and assembled using the latest techniques of the electronics industry.

To supply data to the computer, air defense radars already existing in the field are used. But these are supplemented by unattended low-altitude radars, by offshore radars on platforms known as Texas Towers, by picket ships, farther out to sea, and by round-the-clock patrol of early warning aircraft.

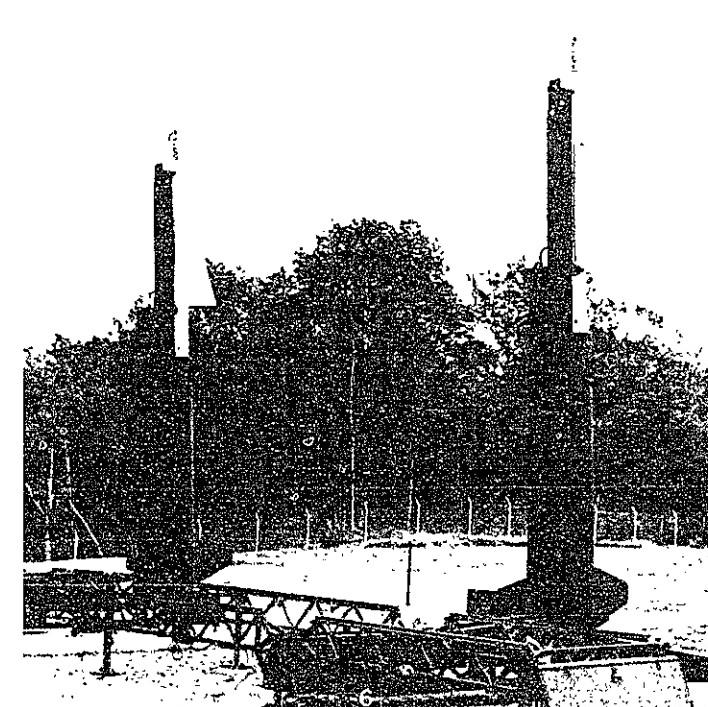
The heart of each operational unit is the direction center—a windowless, reinforced concrete building—which houses a dual channel computer. Only one channel furnishes data at any given time. The other operates on a stand-by basis. While one channel is working, the other is also receiving data and can take over the full air defense load in a matter of seconds.

The high-performing, large capacity air defense computers together with the radars and other individual components of the SAGE System represent one of the farthest advances yet made in electronics technology. Electronics is helping reduce to a minimum the human effort required for rapid assimilation and processing of information, a basic demand of modern air defense. The SAGE System fulfills this demand but it also fulfills a demand of greater significance to our nation's security. In releasing men for jobs they can do best, machines are helping to overcome what has long been an *imbalance* between the *increasing "destruction potential"* directed against America and our ability to counter this potential. In achieving this lies the promise of "Counterbalance" and this is the ultimate goal of SAGE—our new Air Defense System.

The Growth Of Lincoln

MIT Lincoln Laboratory was organized in 1951 in Cambridge, Massachusetts, by the Massachusetts Institute of Technology at the joint request of the U. S. Army, Navy, and Air Force for the primary purpose of mounting an all-out technological attack on some of the problems of continental air defense. The Laboratory is a tri-partite organization.

(Continued on page 6)



Tracked down by the net, the attacker would then be the prey of the deadly Nike missiles and fleet interceptors which are guided almost without human help.

ADSEC Recommendation Resulted In Formation Of Project Lincoln

(Continued from page 5)

tion jointly supported by the three Armed Services. The prime contract is with the Air Force through the Air Research and Development Command.

The decision to establish Lincoln Laboratory resulted from and followed closely the report and recommendations of a study of the effectiveness of U. S. defense against air attack, by a special Air Force appointed study group known as the Air Defense Systems Engineering Committee ADSEC.

Soviet possession of nuclear weapons and the ability to deliver them to the North American continent rendered the U.S. vulnerable to large-scale air attack for the first time in history. Reassessment of U. S. air defense potential indicated an urgent need for more effective defense.

The ADSEC proposal was given further study by a group formed under the name "Project Charles" headed by Dr. F. Wheeler Loomis, on leave from the University of Illinois, where he is now chairman of the Physics Department. Dr. Loomis became the first director of Lincoln Laboratory and was succeeded after two years by Dr. Albert G. Hill, MIT Professor of physics. Dr. Hill resigned as director last spring.

Several cogent reasons influenced the decision to enlist the cooperation and support of a private university in the creation of necessary laboratory facilities rather than to attempt the establishment of a new laboratory within the military structure in times of nominal peace. The performance record of such laboratories during World War II was impressive and the freedom and objectivity of an established scientific community with academic standing would enhance the effectiveness of the effort. The possibility of providing top level scientists with greater tangible and intangible satisfactions would be increased.

Checks And Balances

Lincoln Laboratory is managed by members of MIT's faculty. Liaison to the Institute is maintained through Admiral Edward L. Cochrane (Ret.) Vice-President for Industrial and Government Relations. Close relationships with the armed services at both the policy and working levels are maintained by a Joint Services Advisory Committee and by permanent representation at Lincoln of each service.

Support and close working liaison between Lincoln and the Air Force is provided by resident units of the Air Research and Development Command and the Air Defense Command. The Air Force Cambridge Research Center, one of nine major research centers scattered throughout the United States and operated by the Air Research and Development Command, provides technical liaison, contract administration, and Air Force logistical support including that required for system-wide testing. Lt. Colonel R. S. LaMontagne is in charge of the AFCRC Lincoln Project Office, and Captain H. E. Spangler is Contract Administration Officer.

The Limits Of Research

The largest current project is research and development of the Semi-Automatic Ground Environment (SAGE) System of air defense. The SAGE System is a network of digital-computer-equipped direction centers with interconnecting communications for processing aircraft radar echoes and other information, and generating battle orders to defense weapons.

One of the first major projects at Lincoln grew out of a survey conducted in 1952 by the Summer Study Group, headed by Dr. Jerrold R. Zacharias, Professor of physics at MIT. This study resulted in a program for development of equipment for the Distant Early Warning (DEW) line



Dr. Marshall G. Holloway (at left), has been Director of MIT Lincoln Laboratory since May 1955. Dr. George E. Valley, Jr., the Associate Director since November 1953, has been a leader in the project since its inception.



of radars and communication circuits across the northern part of the continent. This project is now in the installation stage.

Developing of the ionospheric and tropospheric scatter systems of long-range radio communications, following fundamental work in physics and engineering, is another Lincoln project. These systems provide ultra-high frequency beyond-the-horizon radio communication of extremely high reliability.

A general listing of specific kinds of research and development at Lincoln would include digital data transmission, solid-state physics including both transistors and magnetic ferrites for digital computer and radar applications, improved ground and airborne radars, long-range radio communications, anti-aircraft weapons systems, theory of sample data servo systems, psychological research on training and operator relationships to equipment and systems analysis, simulation, and evaluation.

The Facilities

Facilities at Lincoln and its affiliated MIT Barta Building in Cambridge include a semiconductor physics laboratory, physical chemistry laboratory, metallurgical and ferrite laboratories, low temperature research facilities, a mechanical engineering group specializing in structures, electro-mechanical design and heat transfer, vacuum tube construction shop used for special cathode ray display tubes, microwave research facilities, three large-scale digital computers, extensive shops, drafting rooms, and a photographic laboratory.

The Administrators

Dr. Marshall G. Holloway, Director

Dr. Holloway became Director of MIT Lincoln Laboratory in May 1955. He is a Professor at MIT. He came from the Los Alamos Scientific Laboratory in New Mexico, where he had served since 1943. He had been actively engaged in nuclear scientific problems, including the development of atomic weapons to which he personally contributed very substantially. He has recently served in Washington on an advisory committee for the Director of Defense Mobilization.

Dr. Holloway was graduated in 1933 from the University of Florida. He took his degree of master of science in 1935 and the degree of doctor of philosophy in physics in 1938 at Cornell University. He taught at the University of Florida and at Cornell, and served in the Purdue Research Foundation from which he was called in 1943 to go with the "Manhattan District" to Los Alamos.

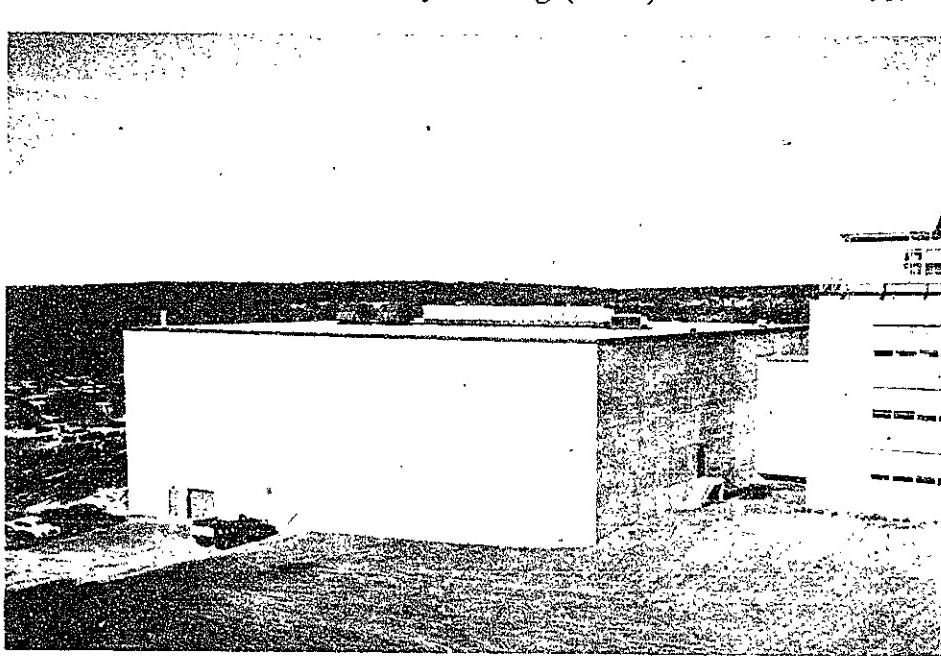
Dr. George E. Valley, Jr., Associate Director

Dr. Valley, Associate Director of the Laboratory since November 1953, has been a prime mover of Lincoln since its inception. In 1949 he was asked by the Air Force to form a committee to study the existing air defense system. The committee's conclusions and recommendations led to the eventual establishment of the Laboratory.

Dr. Valley received the degrees of bachelor of science at MIT in 1935 and doctor of philosophy at the University of Rochester in 1939. He then served at Harvard University as a research assistant (1939-40) and as a National Research Fellow (1940-41). In 1941 Dr. Valley joined the staff of MIT's Radiation Laboratory. Appointed assistant professor of physics at MIT in 1945 and associate professor in 1949, he has specialized in nuclear physics and cosmic radiation.

Dr. Valley was a member of the Scientific Advisory Board to the Chief of Staff, U. S. Department of the Air Force from 1946 to 1956 and was chairman of the Electronics Panel, 1950-1953.

In 1948 he was awarded the President's Certificate of Merit, the nation's second highest civilian award. In 1951 he received the Annual Award of the Air Force Association.



Specially constructed for Air Force air defense work, the laboratories in Lexington provide the facilities for the MIT Lincoln Laboratory. They will be a permanent site for the research and development necessitated by SAGE.

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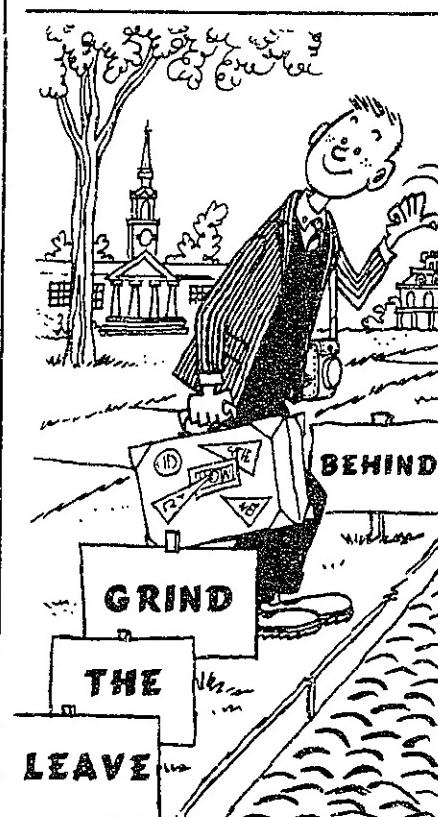
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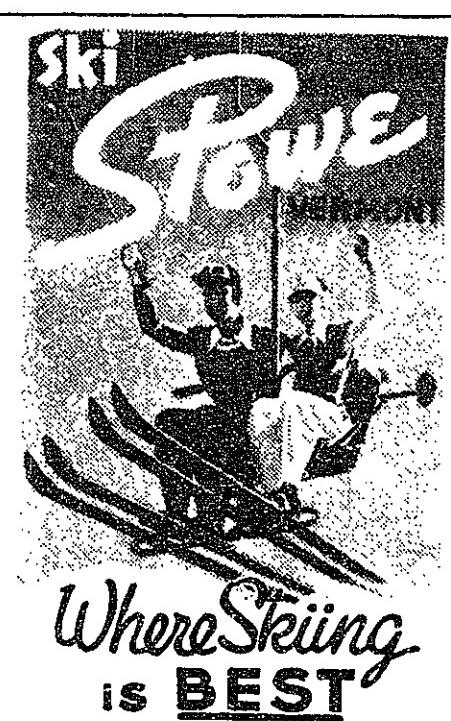
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Ernsberger Sparks Millrose Relay Win

Running in the annual Boston Athletic Association invitational meet on Saturday, January 21, the Beaver indoor track team copped two third places in their mile and two mile relay heats. The mile team's bid for a first in the Boston Garden event was spoiled by a dropped baton, making the third place showing all the more surprising.

In the two mile relay, coach Oscar Hedlund's speedsters fought it out all the way with University of Connecticut and Northeastern, and at the final passing UConn led with the Huskies in second holding a slight lead on the Techmen. Anchor man Ed Carter '58, nearly closed the gap all the way but Northeastern was given the nod for second place by the judges as both teams were timed in 8:09.8. UConn won with a time of 8:08.8. Running for the Beavers in this event were Glenn Bennett '58, Pete Carberry '57, Dave Vaughn '57, and Carter.

Mile Relay Strong

In the mile relay, the Tech team of Roxy Ernsberger, Bill Duffy, Ed Bell, and Dick Murdoch, all sophomores, was highly rated, but when the baton was dropped on the second pass, the team was dropped to fourth place. Only a terrific last lap by Murdoch pulled the Beavers up into third.

The mile team reached its peak of the season thus far the following weekend in the annual Millrose games in Madison Square Garden in New York. With Ernsberger opening a lead in the first lap, the Cardinal and Grey runners stayed ahead of the field all the way to win with a time of 8:30.8. The rest of the heat was made up of University of Providence, CCNY, Iona, and Adelphi.

BAKER MEMORIAL PRINTS

Students interested in securing a Baker Print for the Spring Semester should sign up in the TCA office before Feb. 14.

Hoop, Rink, Squash Teams Resume Action

Traditionally strong Princeton will provide the opposition for the Beaver squash team when they return to action in a home meet at 2:30 on Saturday. Last year's Princeton team was one of the strongest in the country, but loss of Roger Campbell, their number one man and twice intercollegiate champion, has weakened their team somewhat. The Engineer team has been hurt by the loss of their number three man, Walter Stahl '56, a three-year veteran and number three man for two years, who dropped out at mid-year. The home team should be very strong in their top men and depth will probably decide the match.

Coach Scotty Whitelaw's varsity basketeers get back into action Saturday night in the cage as they take on Stevens Institute of Hoboken, New Jersey. The Techmen will sorely miss the services

of 6', 4" center Norm Howard who dropped out at mid-year. After their defeat at the hands of Northeastern during reading period, the Beavers are in need of a win, and with a week's rest and a week of hard practice behind them, they should be a slight favorite.

With a disappointing two won and six lost record under their belts, the MIT pucksters travel South this weekend to meet a strong Princeton team Friday and Lehigh on Saturday. Princeton should present the Beavers with their best opposition of the year, holding victories over Dartmouth and Williams, both of whom beat Tech. A win over the Tigers is not, however, impossible, should the Beavers display continuously the brand of hockey they have shown so far only in spots. Little is known about Lehigh except that they are more in the Tech class and should offer a tough battle.

bushleaguer

Meteorology Lab copped first place in the finals that concluded this season's intramural basketball tourney. The Grads, Betas, Theta Chi A's, and DU's finished in that order.

In the first contest of the third round, the Grads edged Theta Chi A's team, 47-44. Billerman, a Grad hoopster, was top man with 16 points. Meteorology took DU in a 58-59 skirmish. Earl Snyder scored 18 points for the Meteorology five. Sigma Chi was dropped by the Betas; the score: 46 to 34. Warren Goodnow '59 and Bob Kersey '57 of the Betas shared top honors, both having dropped 14 points through the hoops.

Du whipped Sigma Chi, 43-21, in the contest that decided fifth place. Dave Larson '58 sparked DU with 15 points. Meteorology ran over Theta Chi A. Dick Steigerwald and Bill Constanakes both scored 17 points for Meteorology in the 54-52 contest. The Betas took Theta Chi A in the scramble that decided fourth position; the score was 57-49. High scorer was the Beta's Bob Kersey '57 with 24

points. Third place in the tournament was capped by the Betas when they were whipped by the Meteorology quintet, 42-33. Bob Kersey '57 was again top man; this time with 15 points. Dick Steigerwald and Earl Snyder led Meteorology with 13 and 14 points respectively. Meteorology continued in their winning ways to walk over the highly touted Grad five in a 44 to 36 contest. This victory caused another game to be run off. Bill Constanakes' 14 points earned him top honors with a whopping 22 points for the Meteorology squad.

In the final game of this season, Meteorology's fivesome rolled over the Grad squad with an eight-point margin, giving them first place in this year's intramural basketball crown.

Meteorology performed throughout the season as expected; they were a fine team. Dick Steigerwald, Earl Snyder, and Bill Constanakes (Continued on page 8)

Ski Team Wins Top Championship Honors, Takes William Henry Memorial Trophy

Led by Dick Schwaegler and Terje Backe the MIT ski team ran off with two trophies over the past vacation, taking the William Henry Memorial Trophy, and first place in Class B of the Eastern Intercollegiate Skiing Association Championship.

At Franconia, N. H. in the Memorial meet, Schwaegler took second to Eric Bodtker ineligible for the EISA meet, with Backe third, and another Tech man, Sigurd Hoyer, fourth. The Engineers ran off with the point

score as Boston University was second and Amherst third.

The EISA meet at Lyndonville, Vermont was closer in point score but the individual title went easily to Schwaegler with Backe second, Hoyer ninth, and Stan Hart fourteenth. Schwaegler took the downhill by two seconds and was second to Backe in the combined slalom though he ran up the best time of the day. The final point score gave Tech a two-point victory over Yale with Massachusetts almost twenty behind.

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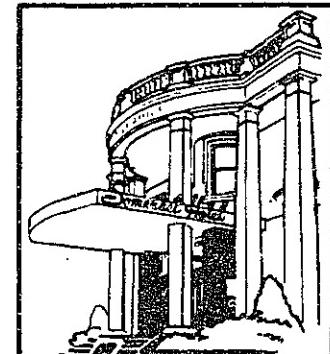
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Varsity Hockeymen Lose To Bowdoin

Playing on the first day of Reading Period, the MIT hockey team suffered its sixth loss of the season, bowing to Bowdoin 4-2. The game, played after two postponements due to bad weather, was marked by hard, aggressive play on both sides.

The Martinmen got off to a flying start with Bev Goodison '57 scoring after only 22 seconds had elapsed. Goodison stole a pass in front of the nets, had one shot kicked out to the right where Jim Coulter '56 picked it up, and then scored on a pass from Coulter. At 12:42 with Tech a man down, Bowdoin defenseman George Crane hit from right in front on a pass from Dave Hamlin. The Black and White followed this up with another goal at 17:40 and left the ice with a 2-1 lead at the close of the period.

Bush Leaguer

(Continued from page 7)

Stanakes were their big guns. The Grad House quintet were not all "college stars" as rumored, but they did finish well in the money, as expected. The Beta five were the dark horses of this season. Bob Kersey's tremendous ability as a center and pivot man, coupled with the Beta's superb teamwork earned them third position. DU's Dave Larson had a really good jump shot that sparked that squad throughout the season, and surely helped the DU's to finish in the finals. Theta Chi A had a good team during the year, and finished in fourth place despite the injuries that plagued their basketeers throughout the season.

Once again *The Tech* will distribute FREE BEER freely through the campus to raise the students' morale. Six, 6, Free cans

The second period was slow and sloppy with Bowdoin getting the only goal midway in the period on a trailer shot after goalie Sandy Aitken '56 had stopped a breakaway. The Beavers started off the third period just as they had the first and cut the lead to 3-2 on a goal by Paul Skala '58. Taking a pass from Gus Schwartz '56, Skala's shot from fifteen feet cleared the prone goalie and nestled in the upper part of the nets. Bowdoin bounced right back and scored at 10:55 as they had before, with Aitken stopping one hard shot and then not having a chance on the follow up for the final score.

Play from here on in was hard with Bowdoin's 6-4 defensemen throwing their weight around to good advantage.

of BEER will be given to any persons who correctly predict the league winners in each of the four hockey leagues. This contest, named the Jack Obla Segall Memorial Farce, will be run annually.

Entries must be deposited in Box 69, *The Tech*, Walker room 020, Baker Box 1300, East Campus Box 200, or Slippery Rock General Delivery before February 15, 1956. All entries are the property of *The Tech* and none can be returned for any reason whatsoever.

Staff members, their roommates, and Jack Obla Segall are definitely excluded from this contest. The decision of the judges is final and duplicate toasts will be drunk by the sports board in case of ties. Beer labels, suitable for framing, will be awarded to all who bother to read this far. Good luck and may our best friends win.

Summer Session

(Continued from page 1)

"Molecular Engineering"—a new approach to engineering problems in which new materials are derived from the basic building blocks of atoms and molecules to fit the specifications for special purposes.

"The Artist, Materials and Technology"—new materials available to architects, model makers, and planners—plastics, metals, enamels, glass, laminates, etc.—are without precedent and have potential values in strength, light, color, and surface which are not yet realized.

Other topics in the series include structural design, industrial wastes, vibration, lubrication, heat transfer,

creative engineering and product design, control systems engineering, fluid power control, textile technology, iron and steel making, X-ray diffraction, ceramics, city and regional planning, instrumental chemical analysis, communications, digital coding and decoding, switching circuits, research methods in biology and medicine, science teaching in secondary schools, ship propulsion, electronic computers in business, operations research, dynamic measurements, plastics in building, hydrodynamics, and food technology.

Extensive work in various laboratories at the Institute will be a feature of most of the programs. Participants will use such advanced equipment as the Whirlwind computer, cyclotron,

synchrotron, ship model towing tank, underwater propeller tunnel, supersonic wind tunnel, plastics research laboratory, and radar meteorology laboratory.

"This series," according to Professor Huntress, "is especially designed for professional people not regularly associated with MIT. We seek to help these people refresh and enlarge their knowledge and extend their mastery in professional fields in which the Institute is pre-eminent."

Members of these programs may live in MIT dormitories and will have available all of the cultural and recreational facilities of the MIT campus. Additional special events open to members of all programs are planned throughout the summer season from Monday, June 18 through Friday, August 31.

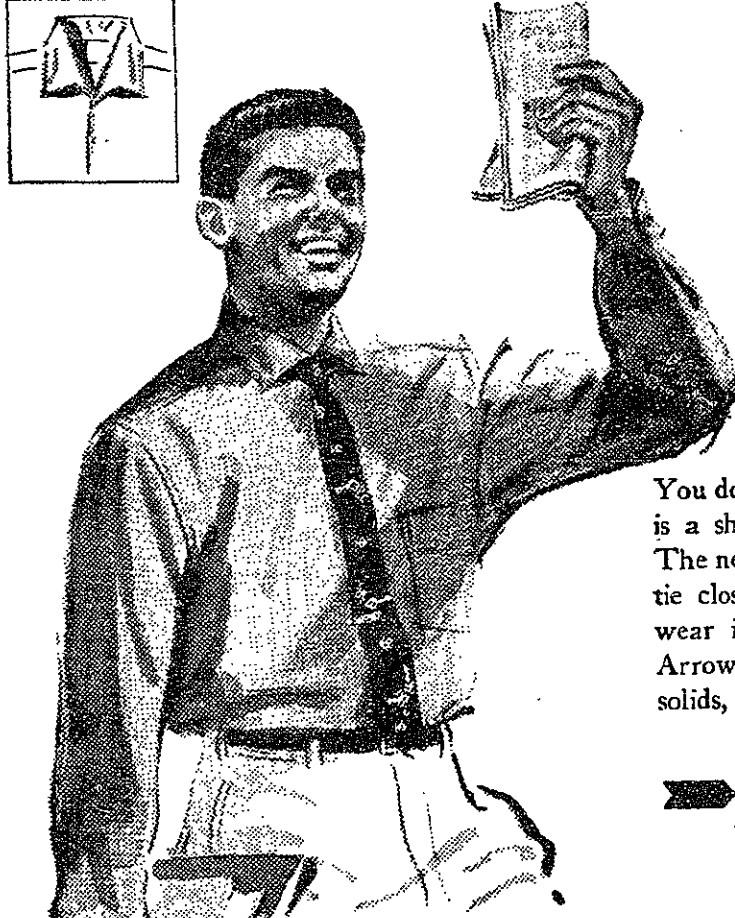
Further information about summer activities at the Institute is available from the Summer Session Office, Room 7-103, Massachusetts Institute of Technology, Cambridge 39.

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Physicists				x	x
Fuel Technologists	x				
Industrial Engineering	x	x		x	x
Metallurgical Engineering	x	x		x	x
Metallurgists	x	x		x	x
Business Administration and Engineering	x			x	
Chemists				x	x
Nuclear Engineering				x	x

All you need to start is background in one of the fields listed in the left-hand column above and a pencil to check the activities you want to talk about when the B&W representative appears on your campus. He'll be there on the date shown above.

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notices

STRING QUARTET

The Juliard String Quartet will play in Kresge Auditorium at 3:00 p.m. on Sunday, Feb. 19. The program will be as follows: Haydn, Quartet Opus 64, No. 5 (The Lark); Bartok, Fifth Quartet; Beethoven, Quartet Opus 59, No. 3.

INFORMAL DANCE COMMITTEE

The Informal Dance Committee of the Walker Memorial student staff will present their first dance of the term in Morss Hall at 8:00 p.m. on Saturday, February 18. The admission price will be \$1.00 per couple.

ACQUAINTANCE DANCE

An acquaintance dance will be held in Morss Hall, Friday night, Feb. 17, from 8 to 12. Don Ellis will head a six-piece band and refreshments will be served during intermission. Girls will attend from Lasell, Radcliffe, Simmons, B.U., and all the smaller schools around Boston. Announcements have also been sent to the nurses' homes of the larger hospitals. Cost is one dollar.

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On campus for interviews
Thursday, February 16, 1956

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B.S., M.S., and Ph.D. candidates in Mechanical, Aeronautical, Electrical and Electronic Engineering, Physics and Mathematics may schedule interview appointments through your placement office.